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Education and the Labor Force in Japan

Koji Taira

College of Commerce and Business Administration
Bureau of Economic and Business Research
University of Illinois, Urbana-Champaign

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Koji Taira, Professor
Department of Economics

ABSTRACT

Today the percentage of Japan's labor force with 14 or more years of education (junior college, university, and graduate school) is close to 20%. This is lower than the college enrollment rate of the 18-year old Japanese, which is more than 35%. The human capital content of the labor force will increase in the next generation to match the college enrollment rate. The enrollment rate increased rapidly in the 1950s and 1960s, stabilizing since 1976 after peaking at 39%. The estimated rate of return on college education has been decreasing all along. The curriculum structure, sex composition of enrollment, and occupational choice are inter-related in a predictable fashion: males get more education in fields more relevant to future careers than females.

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EDUCATION AND THE LABOR FORCE IN JAPAN

by

Koji Taira

Introduction

In recent decades, the occupied population of Japan breaks down by level of education as follows (MCA, 1984, p. 63):

	Compulsory education (9 years)	Secondary education (12 years)	Higher education (14 or more years)
1960	68.7%	23.0%	6.6%
1970	54.9	33.1	10.6
1980	38.4	42.9	17.5

The percentage of working people with higher education (including two-year junior college, 4-year university, and graduate school) shown above appears low by standards one would associate with Japan's reputation as a country of high-quality human resources. For comparison, in 1980, 18.8 percent of the U.S. population 25 years or older had received 4 or more years of college education. If people with 1-3 years of college education are added, this raises the percentage of people with higher education to more than 30 percent (U.S., 1985, p. 134).

The college enrollment rate in Japan increased rapidly in the 1950s and 1960s. It peaked at 38.6 percent in 1976. In the 1980's, this high college enrollment rate is not yet fully reflected in the composition of the labor force by education. Given time, however, as older, less educated members of the labor force retire, the proportion of the labor force with higher education will eventually converge on the college enrollment rate which, despite slight decreases after 1976, still remains high at more than 35 percent. (Japan's college enrollment rate is defined as the ratio of all new college students in a given year to all boys and girls who completed 9-year compulsory education three years earlier. Since the attendance rate during compulsory education is almost perfect in Japan, this way of calculating the college enrollment rate is identical with the ratio of all new college students to all 18-year olds. One complication is that nearly 30 percent of the new college students have spent a year or more after high school in preparation for college admissions. But so long as the rate of delayed college entry remains constant, the enrollment rate as calculated is a good way of relating the cohort of 18-year olds to those who eventually go to college from among them.

Table 1 presents the 1980 data on enrollment, graduation, and employment for three levels of education: compulsory (9 years), secondary (+3 years), and higher (+2 or more years). "Persons whose highest education attained is compulsory (secondary, or higher) education" mentioned in the table are the graduates of compulsory (secondary, or higher) education who did not advance to the next higher level of education upon graduation. Graduation was in March 1980, and the Ministry of Education survey was conducted on May 1, 1980. If the enrollment structure of 1980 continues for a generation or two in the future, the distribution of Japan's adult population by level of education will be substantially like what is shown in Table 1, Column B in parentheses, for the distribution of graduates of by terminal level of education.

This means that nearly 40 percent of the adult population in the future will have had a college education of 2 or more years and that nearly 95 percent will have had at last 12 years of education through high school. This is a remarkable achievement, considering the optional nature of high school education in Japan. Even this is an underestimate of the educational level of these Japanese. It is based on the formal track of education without taking into account additional nonformal education people can take advantage of (such as "miscellaneous" and "specialized" schools to be described later).

(Table 1 about here)

Table 1 also shows the distribution of the March graduates who found jobs by May 1, 1980, by level of education. The relationship between Columns A and B roughly indicates how the structure of the working-age population translates into that of the employed labor force, both by level of education. The two structures are similar to each other. The employment ratio (that is, the ratio of the graduates employed by May 1 to the March graduates less those who have moved on to the next higher stage of education) is highest for college graduates and lowest for high school graduates. However, there is a statistical problem here with respect to high school graduates. Many of those who did not enroll in college immediately after graduation from high school did so a year or two (or even more) later. In Japan, those who make a smooth transition from high school to college account for only 76 percent of new college entrants (MOE, 1980). The remainder are the students who failed to pass the entrance examination at their first try and succeeded in getting in a year or two (or more) later. (More on this later.) High school graduates can also choose to enroll in culturally or vocationally oriented non-formal schools for a year or more before seeking employment. After subtracting these high school graduates who are preparing for the next round of college entrance examinations (most of them enrolled in preparatory courses at non-formal schools) and those who are enrolled in vocational courses at these schools, the high school graduates' employment ratio should be much higher than shown in Table 1. This point will become clearer when the choices for youth after compulsory education are discussed later in this paper.

For some years, Japan has stabilized the enrollment structure by level of education. According to the year-to-year statistics, the college enrollment rate peaked at 38.6 percent in 1976. Subsequently, it has been decreasing (35.6 percent in 1984). The high school enrollment rate peaked at 94.3 percent in 1981 and tapered off. Thus in the late 1980s, young Japanese in the labor force would be distributed by level of education as follows: about 6 percent with compulsory education, 56-59 percent with high school, and 35-38 percent with college. Provided the school enrollment structure by level of education remained stable, this would be the structure of the entire labor force by level of education a generation later.

Interestingly, the peaking of the college enrollment rate in 1976 and its subsequent decline have occurred in close parallel to the end of Japan's "miracle growth" in 1973-75 and its transition to low growth at rates half as high. This apparent correlation between slowdown in economic growth and the stabilization of enrollment in higher education is a product of complex relationships between economic growth and demand for education. One can think of two kinds of demand for education: as a consumption good and as an investment in human capital. By enriching households, economic growth enables them to buy more goods and services, education being one of the services households want to buy. Public opinion polls about reasons for going to college reveal the same motivation as the "demonstration effect" on the household demand for consumer goods (Iwauchi et al., 1985, pp. 119-120). By requiring more sophisticated technology, a growing economy also needs higher-quality human resources to go with the changing technology. Firms then are willing to pay differentials for higher education, justified by higher productivity to result from better technology and higher-quality human resources. On the other hand, some (if not all) people consider education as an investment and wonder whether the differential income that more education brings about justifies the cost of obtaining that additional education.

Table 2 shows a recent example of calculations of rates of return on investment in college education for male employees in manufacturing firms (MOL, 1981). Interest rates on one-year time deposits are also noted for comparison. This table shows a declining trend in the rate of return on investment in college education. (According to Umetani (1980), the declining trend started in the early 1950s.) Compared to the interest rates on savings, college education may have been a sound investment earlier but has of late lost its attractiveness. The calculations for Table 2 follow the standard formula that equates the

(Table 2 about here)

present value of all future earnings of college graduates over and above the earnings of high school graduates to the present value of foregone earnings and direct educational expenses of college years. The college years are assumed to be from 18 through 21 years of age (for 4 years). This assumption is perhaps too rigid and likely to result in an underestimate of the college costs for two reasons. (1) In any year, one-third of college freshmen do not come directly from the same year's high school graduating class but have spent a year or more after high school preparing for the college entrance examinations. The costs of the preparatory period should be charged to the college costs. (2) Not all, but only 76 percent of a given year's entering cohort graduates from college 4 year later. Some of those who do not graduate may have dropped out, but most eventually graduate a year or more later. Those who drop out pose no problems for the calculation of the rate of return on college education, but the longer period of college life due to delayed graduation adds to the college costs. For these reasons, for more than 50 percent of a given year's graduates, college life (from graduation from high school to graduation from college) has been 5 years or more years. Considerations like these should raise the costs of college education and reduce its rate of return.

If corrected for cost underestimates, college education's loss of attractiveness as a form of investment should have occurred earlier than may be inferred from Table 2. Although the absolute figures for rates of return in Table 2 are suspect, the declining trend observed in these rates seems plausible. There are materials that corroborate the declining trend. For example, the earnings differentials between workers with, and those without college degrees have narrowed for all age groups over the years shown in Table 2 (MOL, 1981, p. 141). In addition, the profitability of college education differs by size of firm. In Table 2, it is only the larger firms that show higher rates of return on college education than interest rates on savings. Even there, this net profitability occurred earlier, disappearing later. In small firms, returns on college education have always been inferior to those on savings. This implies that unless college graduates find jobs in larger firms, they can not recoupe the costs of investment in college education. Furthermore, during the 1970s, especially after the Oil Shock of 1973, larger firms cut back employment in order to cope with the impact of slower economic growth. In some years, many firms passed up the recruitment of new college graduates altogether. It appears to have been in response to the long-run decline in the rate of return on college education and the narrowing of employment opportunities for college graduates in the 1970s that the college enrollment rate peaked in 1976 and decreased subsequently, as observed earlier. One may generally suppose, then, that in Japan, firms' demand for college graduates is closely linked with households' demand for college education, although one should also allow for the consumption demand for education in the sense that people want and value more education for its own sake. In subsequent pages, we will describe how firms' demand for labor, schools' and colleges' supply of education, and households' preferences for different levels and kinds of education are interrelated in ways basically consistent with how the labor market is expected to work as an allocative mechanism for human resources, though subject to the exogenous constraints on rational calculations from social values and belief systems.

Transition From School to Work

Japan's "lifetime employment system" requires that the new recruits come directly out of school or college with no interval of employment or unemployment. The required articulation between school and work results from a period of careful mutual search by employers and students during the last school year. The recruitment process is heavily regulated by the law and closely supervised by the Ministry of Labor. It takes the employer more than a year to employ new graduates.

To illustrate the recruitment process with respect to high school graduates, the employer formulates the hiring plans in January-April for a share in the March graduates of the following year. (The following description of a recruitment schedule draws heavily on Tsuchiya (1978). For a more general description, see Clark (1979), Rohlen (1974).) In May, he explains the plans to the Public Employment Stabilization Office (PESO) in his area. In June, he fills out the officially prescribed recruitment forms with details of his plans. By this time, he has targeted certain high schools for visits by his recruiters. These schools tend to be the alma maters of the current employees. In July, the completed recruitment forms are submitted to the PESO for approval. The forms approved by the PESO are copied and mailed to the targeted schools. Recruiters are then ready to visit the schools. However, the law prohibits the recruiters to meet students individually. This is to prevent unfair pressures that recruiters might bring on the youth whose knowledge of the world and whose skills to handle employment contracts are still immature. The recruiters only explain their plans to the school placement officers and groups of students. Individual students, however, can visit companies on their own for informational purposes.

In August, the employer sends out notices on hiring tests, dates, places, etc. to the school placement officers. In September, the placement officers and students file applications for taking the tests. In October, the tests are administered. The results are speedily communicated to the students, placement officers, and PESOs. The successful ones are now prospective employees. (In case their number falls short of the planned level of recruitment, plans are made for additional recruitment.) In November, the prospective employees and their guardians are asked to sign tentative agreements to accept the employment offers. Although these are still tentative agreements, they carry certain legal effects; for example, the employer will be hard-pressed to defend his decision to cancel the tentative offer if an aggrieved prospective employee chooses to sue him in a court. After the tentative agreements, however, the employer's worry is usually how to keep the prospective employees from changing their minds during the next 4 months before they are formally employed in April of the following year. The employer uses the pre-employment period for the education of the prospective employees by intensive information services and occasional interviews. In April, new employees are formally admitted to the firm at a grant rite of passage in which all the important company officials and the new employees' parents and relatives also participate. At this point, the youth who were students a week or so ago acquire a totally new status as responsible citizens (shakaijin) and company employees (kaishajin)--or so it is perceived by everyone concerned. The implied gravity to the individual of the event of admission to a company in Japanese practice can hardly be conveyed by a bland English phrase like "getting a job."

The above process of recruitment also applies to college seniors with minor variations in the schedule. A major difference is that college seniors are fully grown individuals assumed to be capable of legally binding business transactions on their own behalf. they are free to do whatever they want to do in search of jobs, while employers are free to work on them individually with employment offers. A main constraint is that the students still have the school work to finish. Problems occasionally arise when students who have found good jobs fail to graduate. Instructors are under pressure from all interested parties, including the students themselves, to grant them passing grades so they can graduate and work. Wiser students plan easier, failure-proof courses for the last college year to secure a safe passage from college to employment. Such arrangements may often run counter to the normal course of academic progress, however. Although the formal "employment entrance examinations" are administered on November 1, intensive mutual search by companies and students during the preceding months will have pretty well determined successful candidates for employment by then. Under the circumstances, the tests are a mere formality used as a step toward employment contracts with the applicants the company has already informally decided to hire (Matsuura, 1978).

With respect to college students, the pre-examination recruitment process is decisive. How early companies want to start looking for potential employees at colleges depends on the strength of the demand for high-level manpower. When the demand is tight, companies even scramble for college students in their third year! Colleges are rated by companies, while companies are rated by students and their college placement officers. Students at highly-rated colleges have no difficulty in getting offers from better-rated companies. In this way, better human resources are first allocated to better companies. Excellent companies and prestigeous universities are thus directly linked in their labor market functions (demand and supply). If one desires a career in an excellent company, one first has to be admitted to a prestigeous university. Thus labor market competition is transformed into college entrance competition.

On May 1, the Ministry of Education surveys how the March graduates have fared in their transition to a new stage of life. Table 3 shows the results of the May 1 surveys for recent years. Nearly 40 percent of the high school graduates of March 1984 had found jobs by May 1. In addition, nearly 30 percent of the graduates had gone on to college, while about 25 percent were enrolled at "miscellaneous" or "specialized" schools (run or supervised by the Ministry of Education) or at the public vocational training centers (run by the Ministry of Labor) for further training and education. Only about 5 percent of high school graduates were in the "non-active" category (neither working nor going to school). It appears then that youth made an orderly transition to a new stage of life after high school with a minimum of delay and uncertainty. (However, the category "enrolled in non-formal school or

(Table 3 about here)

training" is a mixed bag which contains many young people who are still uncertain about their life courses. On this, comments follow shortly.)

The lower part of Table 3 has to do with the job placements of college graduates. On May 1, 1984, nearly 85 percent of the March graduates were employed or doing graduate work, leaving about 15 percent in non-active or unknown statuses. Some of these non-active graduates may have been "unemployed" in the sense that they were still looking for work. On the whole, however, one would consider it remarkable that within a little over a month of graduation, the placement rates of new graduates were as high as shown in Table 3. At this point, the satisfied Ministry of Education stops bothering the graduates. They now begin to be watched by the Ministry of Labor.

Some more comments on Table 3 are called for. The college enrollment rates among high school graduates (Column 2) show a declining trend. This is part of the declining trend after the peak of 1976. In parallel, one observes a rising trend in the enrollment rates for "miscellaneous" (kakushu) or "specialized" (senshū) schools and public vocational training centers (Column 3). (Prior to 1980, these school goers and trainees were reported included in the "non-active" category.) These schools and centers are outside of the regular educational track and often take up the youngsters who are said to be less bright than the regular-track students. Some have failed to advance to high school, and some more have later flunked college entrance examinations. the "miscellaneous" schools enroll students by course and "educate" them in the enrolled course for a year or two. Since 1975, better organized "miscellaneous schools" have been upgraded as "specialized schools" and strengthened as post-high school institutions of vocational or general education. The "specialized school," to qualify for its name, is required by the Ministry of Education to offer at least a year-long curriculum with 800 or more hours of instruction per year (MOE, 1980, p. 207). This is equivalent to a full-time course work for an average college student. The "specialized school" therefore looks almost like a junior college. In 1984, new entrants into 4-year colleges, 2-year junior colleges, and "specialized schools" were respectively 416,000; 181,223; and 156,001 (counting only those high school graduates who entered these institutions immediately after graduation). Both the non-formal "miscellaneous" and "specialized" schools can also enroll younger people with compulsory education only into lower-grade curricula. Even college graduates and adults are not denied admission; there are still useful skills they can pick up at these schools.

The courses offered by the "specialized" and "miscellaneous" schools are diverse. The top five courses by enrollment size at the "specialized" schools in 1983 were, in descending order, (1) nursing, (2) tailoring, (3) preparations for entrance examinations, (4) cooking, and (5) information processing. These courses accounted for 48 percent of total enrollment. At the "miscellaneous" schools, preparatory courses were most popular, alone accounting for 35 percent of total enrollment. Thanks in part to preparatory courses at the "specialized" and "miscellaneous" schools, about a third of every year's college entrants come from the ranks of repeaters (rōnin) who failed at the first try. The schools offering the prep courses (yobikō) are often profitable private enterprises. Whether the returns on college education justify the stiff tuition and fees for the prep courses is certainly a good question in view of the declining trend in the rate of return on investment in college education previously mentioned. Nevertheless, it is interesting that the demand for improved chances to pass college entrance examinations has called forth a commercial supply of training to help attain that objective. This is an exemplar of how the training market responds to the demand of the labor market. In view of the intensely Japanese phenomenon that high school and college entrance competition is a surrogate for labor market competition, training in the art of passing entrance examinations is a very important step toward a desirable career. In this view, one could also assume that the rising enrollments in various courses at the "specialized" and "miscellaneous" schools reflect the economy's demand for skills that these courses offer.

The public vocational training centers are run by the Ministry of Labor (MOL). They might just as well be called "schools." But the peculiarly Japanese taste for status differentiation denies the application of the school title to these centers, reserving it only for educational institutions under the jurisdication of the Ministry of Education (MOE). "Education" also evokes a better image than "training." Thus, the MOL training centers suffer from a status deprivation, even though they are perfectly capable of offering vocational "training" comparable to the vocational "education" offered by various MOE "schools." Training at the public vocational training centers is offered to youth and adults alike. A variety of courses cater to the needs of different kinds of trainees. Fresh graduates of compulsory education or high school enroll in basic courses which aside from their emphasis on practice, would look much like those offered at MOE schools. It is the "basic trainees" fresh out of high school who are counted together with enrollees at miscellaneous and specialized schools in Table 3. The adult trainees are treated to different kinds of training according to their vocational objectives. Some need training for the purpose of acquiring national trade certificates. Some want to strengthen the skills which they are already using in their jobs. Some want to acquire new skills to change jobs. In recent years, the "basic trainees" have been a minority of all trainees at the MOL training centers. On the average, the "basic trainees" number about 60,000 and adult trainees about 140,000 (Umetani, 1980; Ishikawa, 1981).

According to a study of samples of the MOL training centers and the MOE vocational schools, there are noticeable differences in participant characteristics between the two systems (Odaka, II, 1982). Youth (19 years or younger) are a smaller proportion of the MOL trainees (41.8%) than of the MOE students (63.0%). The MOL trainees are predominantly male (83.8%), while the MOE students are largely female (66.7%). Among the MOL trainees, those with compulsory education only (48.1%) are a larger proportion than those with high school diplomas (45.0%). The percentages are reversed among the MOE students (13.4% against 79.5%). The MOL trainees are overwhelmingly training in industrial skills and construction trades (88.4%), while the proportion of the MOE students enrolled for these skills and trades is small (13.9%). Most of the MOE students are young female high school graduates preparing for office work or service trades. Both systems' participants want to become self-employed eventually. For the time being, they are willing to work for wages. But they do not have good prospects for well-paid jobs, which in Japan mean employment in large companies. Although more than a fifth of the current MOL trainees hope to work for such companies, only 7.7% of the past trainees actually succeeded in getting into these companies. The MOE students show higher aspirations (35.3% hoping to work for large companies) and better results (20.3%). Unfortunately, even these trainees or students who have succeeded in entering large firms are likely to be treated as "mid-career recruits" (*chūto saiyōsha*) and regarded as second-class enterprise citizens vis-à-vis the "standard employees" recruited fresh out of regular schools and trained at the company expense.

Japan's "lifetime employment system" in large companies is a very carefully guarded institution with highly restrictive criteria for admission. The elaborate recruitment process described earlier implies a barrier to entry into the fold of lifetime employment. The requirement of uninterrupted transition from school or college to a company in April is a minimum condition that must be fulfilled by anyone who hopes to enter the "lifetime employment system." Since the "standard employees" (as the participants in this employment system are called) start their career without prior job training, the employer automatically assumes the burden of training them. The management of initial and continuing training in close parallel to each employee's career progression undoubtedly requires considerable company resources. The cost constraints limit the feasibility of the "lifetime employment system," making it more or less a function of size and excellence of a company. Even in large Japanese companies, the employee coverage of lifetime employment is not hundred percent. At best, it is the "core" employees that this system safeguards, and the core then is supplemented by flexible buffers of non-lifetime workers hired (and fired) under various shorter-term arrangements (Taira, 1985).

Education and Occupation: A Sequential Narrowing of Choices

At two points in a person's earlier life, serious decisions have to be made with implications for the occupational future (Bowman, 1981). (1) At the end of the 9-year compulsory education, a person chooses between high school enrollment and labor force entry. If the high school path is chosen, further thoughts have to be given to school types (public or private, day or night, regular or technical, on-campus or correspondence) and curriculum types (ordinary or vocational). The decision on the school and curriculum types at this point also constrains choices at the end of the 3-year high school education. (2) At this second point, the choice is between college enrollment and labor force entry. There are two types of college: 2-year junior college and 4-year university. Night and correspondence courses are also available for choice. The outcome of the second choice is usually implied in that of the first choice: e.g., advance to a 4-year university almost requires prior enrollment in the ordinary curriculum at a regular high school, as will be illustrated by statistical data. One unique choice that can be made at the end of compulsory education is enrollment in a 5-year technical college (Kōtō senmon gakkō), which combines the equivalent of a high school and a 2-year junior college.

An unusual rigidity exists in the Japanese school system, although some flexibility has been introduced recently: i.e., credits are largely non-transferrable between schools or colleges as well as between curriculums within schools or between departments within colleges. Once a path is chosen, one has to follow it to the end. There is no way to shift to another path, short of starting all over again, when the first choice is later felt to be a gross mistake. The difficulty of course correction in school repeats itself as the difficulty of career change. Such difficulties tend to generate a dogged determination to stick it out with the first choice till the end of the world. A high degree of loyalty to the first choice, be it school, course, or employer, results.

As soon as compulsory education is over, sex begins to play a differentiating role with respect to the educational paths that the boys and girls are encouraged to pursue. At high school boys and girls balance roughly equally in enrollment, but the sex ratio varies widely among vocational courses. At the college level, the junior college is more than 90 percent female, the university largely male, and the graduate school predominantly male. Those who enter the labor force also experience different sex ratios in different occupations and industries.

Table 4 shows the 1984 distribution of all high school students by curriculum. A little over 70 percent of all students are enrolled in the "ordinary" curriculum. The ordinary curriculum is essential for college entrance later, although a large proportion of aspirants are destined to fail at the entrance examinations for the colleges of their first choice. For those enrolled in vocational curriculums, high school is practically their terminal education. Unusually bright students enrolled in these curriculums may succeed in advancing to the 4-year university. But if the university is the goal, no sensible youngster should enroll in vocational curriculums in the first place.

(Table 4 about here)

The differences in the sex composition of students enrolled in vocational curriculums follow a predictable pattern: boys dominate vocations likely to need physical strength such as agriculture, fishery, and industry, while girls dominate, often monopolize, business, home management and nursing. In recent years, 94 percent of boys and girls who finish compulsory education advance to high school. This leaves only 6 percent for labor force entry. In the 1950s, a great majority of new labor force entrants were 15-year old boys and girls who had just finished compulsory education. Company training programs then were organized with these recruits in mind. Now, entry into the labor force with only compulsory education is regarded almost anomalous. Companies have already re-adjusted their new-employee training programs with high school and college graduates in mind.

Table 5 shows what happened to the high school graduates of March 1984. How high school graduates branched out into college, employment, non-formal schooling and other statuses was mentioned in the previous section of this paper. Table 5 adds some more detail to this differentiating process. Although sexes seem balanced in the group of high school graduates going on to college, this is deceptive: men go to 4-year universities and women to 2-year junior colleges. Sex is already working against women with respect to the allocation of the type and amount of college education. Sex also steers female high school graduates into occupations generally considered suitable for women: clerical work, sales and services. Male graduates largely become blue collar workers (operatives, laborers, etc.). Some of them,

(Table 5 about here)

if employed in large companies, are joining Japan's lifetime employment system, and well organized training programs await them in these companies. Although lifetime employment is theirs for taking, turnover among them during the first few years is nonetheless rather high (Koike, 1983). A privilege is a burden to some people, it appears.

We now move to the college level to which more than a third of our high school graduates have advanced. Table 6 shows the distribution of three levels of college students by field of specialization together with sex ratios by level and field. Many 4-year universities offer all or most of the fields appearing in the table, organizing them into faculties and departments. But 2-year junior colleges (some are "junior college faculties" of 4-year universities) generally have small enrollments and can offer only a narrow range of subjects. The names of junior colleges often indicate their specialties; e.g., S commercial junior college, T junior college of nutrition, X agricultural junior college, Y junior college of culture, Z junior college of health care, etc. Indeed, 75 percent of junior colleges operate on the basis of a single curriculum (gakka) (Tomita, 1984). A curriculum may be a subset of "humanities" like English literature, or a subset of "fine arts" like music or painting. A junior college can be started in a small scale with a few hundred students enrolled in a few selected courses. Private enterprise plays a much larger role in establishing and operating junior colleges: more than 80 percent of 500 odd junior colleges are private. (Private enterprise in Japanese higher education is generally substantial. Even among 4-year universities, a little

(Table 6 about here)

more than 70 percent of them are private and depend mainly on revenues from tuition and fees. Many of them are in financial difficulties and subsidized by the Ministry of Education. But some of the mammoth private 4-year universities in Tokyo are organized as "for-profit" joint stock companies and quite profitable. But the graduates of these universities are not as prized by large excellent companies as graduates of state or public universities. This generates a squeeze on the rate of return on college education for the students of large metropolitan private universities: i.e., costs are high, but employment opportunities after graduation are inferior).

The question of "comparable worth" has not arisen yet in Japan. But the tradition which steers women to two years of college education and men to four or more years is a convenient way of preempting the question. With such a clear differential in the amount of education between men and women, lower pay for women would appear all too natural. Only this year (1985), Japan passed a weak law (with no clearcut enforcement requirements or penalties on violations) concerning an equalization of employment opportunities for men and women. In the course of the debate on this legislation, the Japanese made it clear that they did not want a straight-forward "equality" of employment opportunity, but considered it desirable to move in that direction by progressive "equalization," acknowledging that the current situation was one of inequality. Thus the title of the law: *Koyō kikai kintō hō*, in which the well chosen work is *kintō*--equalizing or equalization, not "equality." Since it is the belief system that motivates boys and girls in different ways as reflected in different course preferences and amounts of education between sexes long before they join the labor force, one would need no apologies for inequalities between men and women in such limited contexts as workplaces.

The 4-year university student body is not entirely male. At least nearly a quarter of it is female. But again, female university students tend to enroll in "women's courses" like humanities, home management, education, and fine arts. Social sciences and engineering are the fields which count most as desirable backgrounds for successful careers in large private companies. And predictably, very few women enroll in these courses. Graduate school is male-dominated almost to the same extent that junior colleges are female-dominated. Even so, "women's fields" have drawn relatively large numbers of women. For example, graduate courses in home management remain as female as ever.

We now follow college graduates to their occupations. Table 7 shows various levels of college graduates in different socio-economic statuses as of May 1, 1984. A good majority of the graduates from each level joined the labor force, although a small proportion continued to add to their education. Of all the employed graduates of three levels of college, more than 95 percent are professional, technical, clerical, and sales workers. If there are blue collar workers among them, they are a tiny minority subsumed under "others." It is interesting that college graduates can still avoid blue-collar jobs without risking unemployment. Comparison of occupations of high school graduates in Table 5 and those of college graduates in Table 7 evokes a suspicion

(Table 7 about here)

that there may be a kind of "credentialism" in the occupational classification. "Professional and technical" workers are predictably absent among high school graduates. But not so predictably, "production process workers" are absent among college graduates. Even while being put to the same kind of work on the same factory floor, college graduates are perhaps called "technical" workers, while high school graduates are given no such nominal disguise.

In Table 7, it is understandable that a large number of junior college graduates who are predominantly women obtained clerical jobs. But, more than a half of university graduates who are predominantly men also took clerical and sales jobs. For male college graduates, however, these occupations are entry jobs which anticipate promotions to managerial positions in due course. According to the Japanese rules of lifetime employment, new recruits on the tenure track are deliberately placed in jobs at the bottom of the organizational hierarchy with implicit promise that subject to performance and good behavior, they will be rotated out of these jobs into positions more worthy of college graduates. Strictly speaking, on May 1 when the survey is conducted the employed college graduates would still be going through basic training with no job or unit assignments in the company as yet. Occupational categories at such an early date would make little sense in view of the Japanese employment practices. It is also possible that some of the new recruits are put in factory jobs for a start, but no one would classify these college graduates as blue collar workers. The techniques of occupational statistics are ill-equipped for accommodating the results of such widespread personnel practices in the internal labor markets of companies.

Nearly a third of junior college graduates obtained "professional and technical" jobs. But "professional" sounds a little too grandiose for what one can do after two years in a junior college. The Japanese have perceptual problems in relation to occupational categories used for statistical purposes. The categories are borrowed from America and almost empty of real meanings in Japan. Words like "professional" or "technical" (senmonteki, gijutsuteki) carry in Japanese no such nuances of a special accomplishment, independence, dignity or prestige as they imply in the socio-economic context of English-speaking countries. The word "profession" as understood in America has no counterpart in Japanese. Even "job" is hard to translate into Japanese. The translation, if done, will not be understood in the same way "job" is understood in America (Cole, 1978). Since there is no established native meaning to "professional and technical," the category it represents is obviously quite liberally defined. Thus persons with such diverse educational qualifications as two years, four years, or years of graduate work can be bundled together and called "professional and technical" workers. One may perhaps speak of "occupational" democracy as a supplement to well-established concepts of industrial and social democracy.

The suspected laxity of the concept of "technical worker" (gijutsusha) may be seen in the curriculum backgrounds of the workers so classified. For example, the "technical workers," with a junior college education include many graduates of apparently non-technical curriculums. Although 41 percent of the "technical workers" recruited from junior colleges in 1984 had engineering backgrounds, other curriculums like social studies and education also supplied as many "technical workers" as engineering did (MOE, 1985, p. 94). The picture becomes more credible with respect to the "technical workers" who are graduates of 4-year universities or holders of graduate degrees. Of the "technical workers" who are university graduates, 77 percent came from the engineering faculties. Of "technical workers" who hold graduate degrees (master's or doctor's), 80 percent took their degrees in engineering. Nevertheless, the role of non-engineering backgrounds as sources of "technical workers" is still substantial--20 percent or more. This mixed bag of "technical workers" in Japanese occupational statistics cautions against a hasty conclusion that Japan produces the largest number of engineers in the world and that Japan's enviable economic growth has been due to this large supply of engineers. The figures are considerably inflated for the ranks of technical workers by ambiguous concepts of technical standards. The data are largely useless as a basis for international comparison of relationships between economic growth and technical education (Kinmonth, 1985).

Some degree of association should be expected between the curriculum or faculty backgrounds of college graduates and the kinds of jobs they took after graduation. In the spring of 1984, nearly 87 percent of the humanities graduates of 4-year universities became teachers, clerks, and salespersons. (No separate table is shown for these percentages in this paper. These are calculated from MOE, 1985, p. 94.) More than 90 percent of the social science graduates took clerical and sales jobs. These are the entry jobs for the future managers and executives. (There is no occupational class indicative of managers and executives in Table 7. No college graduates can become managers within a month of graduation.) The science graduates' occupational concentration was highest in "technical" work (52 percent), followed by teaching (24 percent). Nearly 90 percent of the engineering graduates were employed as "technical" workers: this is the closest association of all the relationships between the faculty graduated from and the job taken. Nearly 80 percent of the education graduates became teachers. Interestingly, the home management graduates spread out all over with the highest concentrations in clerical work (36 percent) and teaching (26 percent). The fine arts graduates joined teaching and "others," together accounting for 74%.

In relation to the Japanese employment system, the groups of college graduates to watch are the men, who are statistically in clerical and sales work. These statistical categories for college graduates reflect the initial training and testing stages of managerial candidates. It is generally assumed that all male graduates of four-year colleges should eventually attain at least middle-level managerial positions like section manager. With the increase in the number of college graduates, this assumption becomes less and less tenable. In 1970, the proportion of 50-54 year-old men with college degrees who were managers and executives was 37 percent of this age-education group. In 1979, this proportion was down to about 30 percent (MOL, 1981, p. 109). This was due in large part to the proportionately greater increase in the number of men with a college education in that age group. The supply of managerial positions increases by a different logic from that which governs the supply of college-educated people. In recent years, the discrepancy between the two has become a great managerial problem. Companies have been looking for ways to match promotions with the available managerial positions without at the same time hurting or demoralizing those not promoted. One solution is to create "staff specialists" outside the line hierarchy with pay and prestige comparable to what their peers promoted to managerial positions enjoy. The basic philosophy here is that the promoted and the non-promoted are equally eligible for the managerial positions by such objective criteria as age and education and that the decision to promote some, but not others, runs the risk of errors in judgment which unfairly injure the non-promoted. The unhappiness of the non-promoted and the less-than-enthusiastic support of many employees for promotion criteria other than age and education have adverse effects on the efficiency and morale of the entire company. (The suspicion of nepotism is perennial). This implies that the efficiency and morale of the company depend to a large degree on how well the non-promoted are treated! Thus the solution arises in the form of comparable pay and prestige for the non-promoted vis-à-vis their promoted peers. In 1981, 36 percent of large Japanese companies had already installed the specialist programs. Most of these programs were introduced in the period after the Oil Shock of 1973 when extensive employment adjustment was needed (MOL, 1981, p. 139).

If those "specialists" are just as qualified for managerial positions as their peers who actually became managers, this implies that a company is hoarding an excess supply of managerial resources (i.e., in-house "unemployed"). This excess supply dampens the rise in managerial compensation just as unemployment in the labor market dampens wage increases. Indeed, between 1965 and 1981, in establishments employing 500 or more employees, the average salary of the non-managerial personnel in the age group of 40-43 years rose from 52 percent to 70 percent of the average salary of the division manager. The differentials among managerial levels also narrowed (MOL, 1981, p. 137). This is part of the story that the rate of return on college education has been declining as a long term trend. As the ranks of eligible and actual managers swell as the better educated younger employees grow older, the resources for managerial compensation must be spread thin over larger numbers of educated employees over 40. The Japanese employment system thus embraces a peculiar logic of "comparable worth" among the college-educated men and at the same time reduces the rate of return on college education on the average. This may be lauded as an achievement of industrial democracy of postwar Japan. But this probably cannot continue for long. Sooner or later demand for differential pay and privileges will arise from individuals who are brave enough to claim their "superior worth." The companies also may have to turn their attention to the problem of underutilization of superior abilities. This may require some new philosophy which, for example, condones the notion of the survival of the fittest in career competition and implies a move away from the view of a company as one big family. With the prospect of an increasing popularization of college education, it is now the turn of the educated to engage in a fierce labor market competition under an excess supply of labor which they might have thought was the lot of the uneducated, but not theirs.

CONCLUSION

Aggregative averages concerning education and labor markets in Japan move in ways broadly consistent with economic analysis. During the period of rapid economic growth, 1950-1970, enrollment in secondary and higher education increased rapidly. Although the estimated rate of return on investment in college education showed a long term decline, it apparently was still competitive with rates of return on alternative, financial investments available to households. Managerial positions worthy of college graduates also opened up rapidly during this period. One possible discrepancy was that the supply of college graduates in the labor market perhaps increased faster than the supply of jobs requiring college education, as may be inferred from the growth of the number of college graduates not attaining managerial positions and the narrowing of wage (or salary) differentials by level of education and by level of position in the organizational hierarchy. The potential excess supply of college graduates came to a head when economic growth slowed down after the Oil Shock of 1973. The college enrollment ratio soon peaked in 1976. The high school enrollment ratio then followed by peaking in 1981-82.

Nevertheless, the educational content (human capital) in the Japanese labor force continues to rise as the more educated younger people are added to it every year and as less educated older workers retire. When the ratio of college graduates is equalized in time for all age groups as a result of the stabilized enrollment among youth, the problems of unemployment and under-employment of older educated people are bound to rise. Managerial positions will become relatively scarce, and scarcer. A solution that commands widespread attention is "professionalization" of work that older educated people can do, through greater "specialization." The objective is to enable them to be individually independent with dignity, supported by their own professional practices. "Professions" certifiable by the national government are multiplying, giving rise to all kinds of specialists and consultants inside and outside companies. (The supply of certificates may outrun the demand for the specialized skills that they certify. For example, the certificates of "labor management specialists" (Rōmu kanri-shi, shi meaning samurai by old lexicon and therefore relevant to the dignity of a specialist!) probably have trouble in competing with uncertified, but intrinsically skilled personnel managers. To think of it, the creation of various XYZ-shi may be viewed as a modern adaptation of the time-honored ennoblement process. However, the modern samurai do not have the old samurai's much prized status symbol, the sword.)

Much of the agonizing problem in education and employment today arises from the tyranny of "uni-linear" thinking and its institutional reinforcements. A respected life course for a man (though not for a woman) is the regular progression in education in the 6-3-3-4 sequence (elementary school, junior high school--compulsory through this, high school and college) and, after a successful entry into the employ of a major company, the scheduled rise, as if on an escalator, through ranks to retire as a ranking official of the company. This is "the model path" put on a single string of time. At major junctures of this path, there are examinations to pass. Man's merits are thus constantly evaluated. Man's worth and social prestige are then judged by the degree of consistency of his life course with this model path. The education system and the employment practices of the government and major companies apparently enforce "the model path" with special kinds of reward and punishment systems (recruitment fresh out of school or college, lifetime employment, _nenko_ wages and _teinen_ retirement). But a great majority of Japanese men fail to get on this model path of education and employment. They are failures, although they are ordinary people. Those put on the model path constitute an elite, meritocrats. The wonder of it all is that this particular system of elite formation and perpetuation evokes no resentment anywhere in Japan. It is, on the contrary, enthusiastically supported and people have devised various means to cope with the rules of the game this system imposes on them. The labor market is the major mechanism by which the non-elite populace tries to settle with the second, third and n-th best outside "the model path."

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Table 1. The Distribution of Graduates of March 1980 by Highest Level of Education Attained and by Employment Ratio as of May 1, 1980

Level of Education	(A) All graduates (in thousands)	(B) Employed by May 1, 1980 (in thousands)	(C) Employment ratio (B/A) (%)
1. Compulsory education completed	1,723		
2. Advanced to high school	1,623		
3. Compulsory highest (=1-2)	100 (6.2)[3]	67 (6.1)[3]	67.0
4. High school completed	1,399		
5. Advanced to college	446		
6. High school highest (=4-5)	953 (59.1)[3]	600 (54.5)[3]	63.0
7. Junior college graduates[1]	178		
8. University graduates[2]	379		
9. 2 or more years of college (=7+8)	557 (34.6)[3]	433 (39.3)[3]	77.7
10. All graduates excluding those advanced to next stage (=3+6+9)	1,610 (1.00)[3]	1,100 (100.0)[3]	75.3

[1] Two years above high school. Includes graduates of 5-year technical colleges which admit students finishing 9 years of compulsory education. The entering students of these colleges are counted in "Advanced to high school."

[2] Four years above high school. Implicitly includes those who enroll in and later graduate from graduate school.

[3] Figures for Rows 3, 6 and 9 under Columns (A) and (B) are also expressed as percentages of those for Row 10.

Source: Ministry of Education, Monbu tōkei yōran 1985 (Abstracts of Education Statistics 1985), pp. 28-37.

Table 2. Rates of Return on Investment in University Education for Male Employees in manufacturing, Total and by Size of Enterprise, Selected Years, 1966-80 (%).

Size of Enterprise[1]	1966	1970	1976	1978	1980
Total	8.2	7.5	6.4	5.7	5.2
1,000 or more	9.0	7.9	6.5	5.7	5.1
100 - 999	5.0	5.9	4.9	4.4	4.0
10 - 99	4.5	4.9	4.6	4.3	3.9
Interest rates on one-year time deposits	5.7	6.0	6.75	4.5	7.5

[1] By the number of employees.

Sources: Ministry of Labor, Rōdō hakusho (White Paper on Labor 1981), p. 142. Interest rates are from the Bank of Japan, Keizai tōkei nenpō (Annual Economic Report), various years.

Table 3. The Distribution of March High School and College Graduates by Path Chosen, as of May 1 of Each Year, 1980-1984 (%).

Year	Advanced to College or Graduate School[1]	Enrolled in Non-formal School or Training[2]	Employed[3]	Non-active	Deceased or Unknown
(A) High School Graduates (Total = 100)					
1980	31.9	20.2	41.6	6.2	0.1
1981	31.4	21.2	41.8	5.4	0.2
1982	30.9	22.0	41.6	5.3	0.2
1983	30.1	24.2	40.2	5.2	0.3
1984	29.6	25.1	39.8	5.2	0.3
(B) College Graduates (Total = 100)					
1980	4.4	-	76.7	9.6	9.3
1981	4.6	-	77.6	9.5	8.3
1982	5.0	-	78.3	9.4	7.3
1983	5.3	-	78.0	9.8	6.9
1984	5.7	-	78.5	9.2	6.5

[1] Includes those expected to work while going to school.

[2] Means "miscellaneous" and "specialized" schools under the Ministry of Education as well as public vocational training centers of the Ministry of Labor.

[3] Does not include working students among high school graduates, but includes medical internes among college graduates.

Source: Ministry of Education, Monbu tōkei yōran 1985 (Abstracts of Education Statistics), pp. 58-59, 88-89.

Table 4. The Number of High School Students and Sex Composition by Curriculum, 1984

	All Students (number of persons)	% Female
Total Enrollment	4,885,913	49.6
Ordinary Curriculum	3,487,047	51.0
Vocational Curriculum	1,398,866	46.1
Agriculture	152,769	31.3
Fishery	16,237	11.1
Industry	465,979	3.7
Business	563,181	70.8
Home Management	138,256	97.6
Nursing	26,587	99.8
Others	25,857	48.3

Source: Ministry of Education, Monbu tōkei yōran (Abstracts of Education Statistics, 1985), pp. 54-55.

Table 5. The Distribution of High School Graduates
by Path Chosen and by Sex, 1984

Path Chosen	All Graduates (number of persons)	% Female
Total	1,482,312	50.4
Advanced to college:	439,250	55.4
4-year university	266,810	31.1
2-year junior college	168,107	93.8
Other types of college	4,333	61.8
Enrolled in non-formal school or training[1]	372,669	40.6
Employed:[2]	590,125 (607.237)	53.0
Clerical	173,238	86.5
Sales	110,150	55.9
Craftsman, production process workers, laborer	202,828	39.9
Services	61,131	67.4
Others	59,890	27.0
Non-active	77,574	48.6
Deceased or unknown	2,694	45.6

[1] Means "miscellaneous" and "specialized" schools under the Ministry of Education and the public vocational training centers of the Ministry of Labor.

[2] The figure in parentheses includes working students enrolled in college.

Source: Ministry of Education, Monbu tōkei yōran (Abstracts of Education Statistics), pp. 54-55.

Table 6. The Number of College Students and Sex Composition by Level and Field, 1984

Field	Number of Students			Percent Female		
	Junior Col.	University	Graduate Sch.	Junior Col.	University	Graduate Sch.
Total	337,107	1,734,080	62,692	90.0	23.4	13.7
Humanities	83,642	245,489	8,762	98.0	58.6	31.0
Social Science	36,379	675,501	6,681	68.8	8.9	15.2
Science	[1]	58,446	6,846	[1]	21.9	7.8
Engineering	19,961	342,456	21,091	15.4	2.6	1.7
Agriculture	4,110	59,777	5,834	20.3	14.4	13.2
Health Care	20,072	117,071	10,385	88.5	32.6	9.8
Merchant Marine	0	1,539	59	0	3.5	0
Home Management	100,558	31,948	349	99.9	99.2	93.7
Education	82,870	134,711	3,939	99.2	51.5	29.6
Fine Arts	19,160	45,133	1,320	93.4	63.9	45.1
Others	10,355	22,009	426	98.2	27.4	16.2

[1] No entry for science.

[2] Includes enrollment in "general education" (kyōyō).

Source: Ministry of Education, *Monbu tōkei yōran 1985* (Abstracts of Education Statistics), pp. 74-77.

Field	Number of Students Junior Col.	University	Graduate Sch.	Percent Female Junior Col.	University	Graduate Sch.
Total	170,041	372,247	22,583	92.8	24.6	11.7
Advanced to next stage study	4,684	20,992	3,118	70.2	12.1	13.5
Employed:	134,328 (134,463)[3]	292,301[1] (285,443)[2]	15,345 (15,360)[3]	93.4 (93.3)	22.6 (29.3)	7.3 (7.4)
Professional & Technical	42,294	115,330	14,151	91.9	27.6	7.0
Technical	6,366	66,677	8,626	60.6	9.5	2.0
Educational	14,351	33,714	2,746	98.8	51.8	16.9
Health care	8,741	7,241	1,402	94.3	59.0	12.5
Others	12,836	7,698	1,377	98.2	49.1	12.7
Clerical	77,489	95,056	597	97.8	27.6	14.4
Sales	8,541	63,304	107	84.6	7.6	12.1
Others	6,139	11,753	505	57.9	14.8	8.7
Non-active	25,045	34,164	2,772	95.4	48.9	28.0
Deceased or Unknown	5,849	24,716	1,333	86.6	26.7	24.2

[1] Includes medical internes and excludes working students.

[2] Excludes medical internes and includes working students.

[3] Includes working students.

Source: Ministry of Education, Monbu tōkei yōran 1985 (Abstracts of Education Statistics), pp. 74-77.

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